Krishna Kanta Handiqui State Open University

MCA 4th Sem. Examination, 2014

System Software Paper - 16

Time : 3 Hrs. Full Marks : 80

1. Answer any five from the following questions 2×5 =10
   (a) What is the purpose of symbol table?
   (b) Write down the basic difference between compiler and interpreter.
   (c) What do you mean by syntax and semantic?
   (d) Define parse tree. When a grammar is said to be ambiguous?
   (e) What is Σ^+ and Σ^*?
   (f) Define DLL. What do DLL files contain?
   (g) State the features of LL(1) parsing.

2. Answer any three from the following questions 4×3 =12
   (a) What is an operating system? How does operating system perform resource allocation function?
   (b) State any four code optimization techniques.
   (c) What is the significance of regular expression? Define kleene closure with suitable example.
   (d) What are the three kinds of Assembly Language Statements? Give examples of each of the types.
   (e) What does lexical analyser do?

3. Answer any three from the following questions 6×3 =18
   (a) Define postfix notation. How does it work?
   (b) What is the difference between static and dynamic linking? Explain with suitable examples.
   (c) Explain the working of a Bootstrap Loader.
   (d) Write the difference between macro and a subroutine. What are the advantages of using macro in assembly langauge programming?
   (e) Define the term Multitasking, Multithreading and Multiprocessing in terms of OS.

4. Answer any four from the following questions 10×4 =40
   (a) What functions are performed by a loader? Discuss briefly absolute and Direct linking loader.
   (b) What are the roles performed by a parser? Describe briefly the top-down parsing method.
   (c) What is finite automata? With the help of an example explain the difference between Type-0 and Type-2 grammar.
   (d) Explain all the phases related to compiler.
   (e) Define assembler. Distinguish between one pass and two pass assembler.
   (f) Write short notes on -
      (i) Syntax trees
      (ii) OLE